

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2000-123624

(43)Date of publication of application : 28.04.2000

(51)Int.Cl.

F21V 17/00

(21)Application number : 10-306340

(71)Applicant : IMAGE LAB TECST INC

(22)Date of filing : 13.10.1998

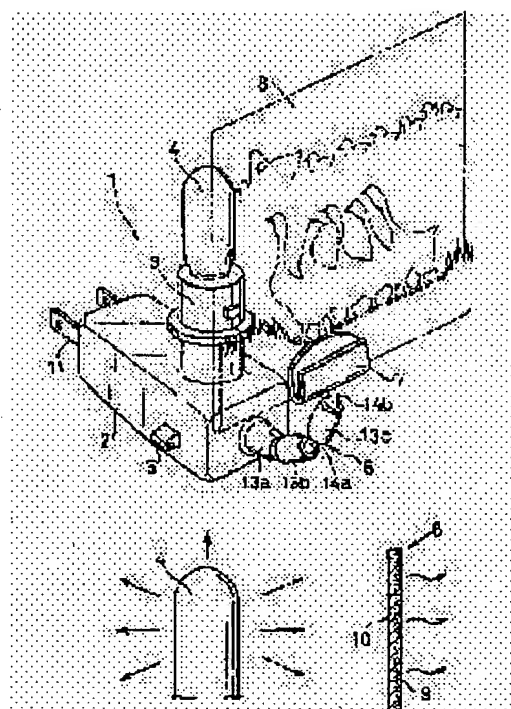
(72)Inventor : KATO TOSHIO

(54) ALL-NIGHT LIGHT

(57)Abstract:

PROBLEM TO BE SOLVED: To change illumination in simple constitution by detachably holding a shielding sheet so as to cover a light source at the tip of a supporting arm capable of bending installed on one side of a light source plugging holder.

SOLUTION: One end of a supporting arm 6 capable of bending is mounted with an adhesive on the end surface, opposite to a light source plug 11 of a light source plugging holder 2, and a sheet holding part 7 for detachably holding a shielding sheet 8 is installed so as to cover an electric bulb 4 at the tip of the supporting arm 6. An all-night light 1 is set by attaching the shielding sheet 8 to the sheet holding part 7 and inserting a light source plug 11 into an outlet. When a switch 5 is turned on to light the electric bulb 4, a figure pattern such as cut-out paper of the shielding sheet 8 comes out as a shadow picture. By bending the sheet holding part 7 to which the shielding sheet 8 is attached or the supporting arm 6 to change an angle switably to the light bulb 4 of the light source or by changing height, a light transmitting state or the shadow picture of the figure pattern is changed.



LEGAL STATUS

[Date of request for examination] 29.06.2000

[Date of sending the examiner's decision of] 13.04.2004

rejection]

[Kind of final disposal of application other than
the examiner's decision of rejection or
application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's
decision of rejection]

[Date of requesting appeal against examiner's
decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The perspective view of the night-light whose (a) is the 1st operation gestalt of this invention, and (b) are explanatory views of a photocatalyst operation produced on sterilization paper by the exposure of light.

[Drawing 2] (a) is the side elevation of a night-light and (b) is the front view of a night-light.

[Drawing 3] (a) is the perspective view of the night-light as the 2nd operation gestalt, and (b) is the fragmentary sectional view of a support arm.

[Drawing 4] It is the perspective view of the night-light as the 3rd operation gestalt.

[Drawing 5] (a) is the side elevation of the night-light as the 4th operation gestalt, and (b) is A view drawing of (a).

[Description of Notations]

- 1 Night-light
- 2 Holder for Power-Source Spigots
- 3 Socket
- 4 Electric Bulb (Light Source)
- 5 Circuit Changing Switch
- 6 Support Arm
- 7 Sheet Attaching Part
- 8 Protection-from-Light Sheet
- 9 Powder of Oxidation Sheet
- 10 Paper Material
- 11 Push in for Power Sources
- 12 Plug Socket
- 13a, 13b Connection object
- 13c Connection object
- 14a, 14b Combination
- 15 Night-light
- 16 Support Arm
- 17 Sucker
- 18 Fitting Hole
- 19a, 19b Fitting hole
- 20 Night-light
- 21 Sheet Attaching Part
- 22a The section with a stage
- 22b Bracket
- 23 Clamper
- 24 Night-light
- 25 Protection-from-Light Sheet
- 25a Convex surface
- 26 Pattern
- B Sphere

[Translation done.]

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The night-light which is a night-light which the light source was attached in the holder for power-source spigots, and prepared the on-off transfer switch, and is characterized by preparing the sheet attaching part which holds the method protection-from-light sheet of a wrap for said light source dismountable at the head of a turnable support arm of said holder for power-source spigots established in the whole surface at least.

[Claim 2] Said support arm is the connection object with which an end is attached in said a part of holder for power-source spigots, the combination which fits in the other end of this connection object rotatable, and carries out successive formation association of other connection objects, and a night-light according to claim 1 characterized by fitting in a sheet attaching part at the head of the connection object by which successive formation association is carried out rotatable at least.

[Claim 3] Said support arm is a night-light according to claim 1 or 2 with which the mounting section to said holder for power-source spigots consists of suckers, and changes.

[Claim 4] Said sheet attaching part is a night-light according to claim 1 or 2 which carries out the description of consisting of clampers to which the head of the connection object by which connection association is carried out carries out a pressure welding flexibly to the maintenance plate supported rotatable and this maintenance plate, and pinches said protection-from-light sheet between said maintenance plates.

[Claim 5] Said sheet attaching part is a night-light according to claim 1 or 4 which is formed with transparent synthetic resin and changes.

[Claim 6] Said protection-from-light sheet is a night-light according to claim 1 which is constituted by the surface section in the antibacterial paper which carried out distributed covering of the powder of titanium oxide, and grows into it.

[Claim 7] Said protection-from-light sheet is a night-light according to claim 1 or 6 which the convex surface which said protection-from-light sheet is made to project, and has predetermined curvature is formed, and changes.

[Claim 8] Said protection-from-light sheet is a night-light given in any of claims 1, 6, and 7 which a pattern is formed in the layer of the convex surface which made the protection-from-light sheet project, consist of thick or dense fiber layers in this encaustic part, and change they are.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the night-light it enabled it to hold dismountable suitably so that a night-light may be started, especially a protection-from-light sheet may cover the light source.

[0002]

[Description of the Prior Art] Conventionally, a night-light is inserted in the push in of a wall surface or a column at a plug, and is held, the relation top brightness by which a long duration activity is carried out as lighting at night is weak, and is enough, and the electric bulb small as the light source etc. is used.

[0003] Such an electric bulb is held in the case of a cube type, and the thing of various gestalten, such as a direct mounting beam thing, is in the holder for power-source spigots in the state of disclosure about the thing make penetrate light and it was made to make illuminate from transparent covering, and an electric bulb.

[0004]

[Problem(s) to be Solved by the Invention] however, such a night-light -- the light source of an electric bulb -- a direct step etc. -- illuminating -- ** -- it was that which has the single function made light and is changeless from before.

[0005] As a **** instrument which gives change, although there were a revolution paper-covered lamp shade, *****, etc., since these all had the problem which serves as a configuration complicated for teaching such a device to a night-light, and large-scale since the purposes of use differ, they had the problem from which implementation becomes difficult.

[0006] Namely, this invention aims at offering the night-light which can give change by using and illuminating various protection-from-light sheets to the single light source with an easy configuration besides the lighting function by the night-light.

[0007]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, the night-light of this invention is a night-light which the light source was attached in the holder for power-source spigots, and prepared the on-off transfer switch, and is characterized by preparing the sheet attaching part which holds the method protection-from-light sheet of a wrap for said light source dismountable at the head of a turnable support arm of said holder for power-source spigots established in the whole surface at least. According to this description, since a protection-from-light sheet is held dismountable at the head of a turnable support arm, the location and include angle of a protection-from-light sheet to the light source can be changed, and change can be given to lighting by exchanging suitably the various protection-from-light sheets prepared beforehand.

[0008] The night-light of this invention is suitable, if said support arm is constituted so that a sheet attaching part may be fitted in an end rotatable at least at the head of the connection object attached in said a part of holder for power-source spigots, the combination which fits in the other end of this connection object rotatable, and carries out successive formation association of other connection objects, and the connection object by which successive formation association is carried out. Since a sheet attaching part is fitted in, a connection object is fitted in rotatable with combination and successive formation association is carried out by doing in this way, a degree of freedom is obtained by the setting-out location of a sheet attaching part, and the include angle.

[0009] Said support arm is suitable for the night-light of this invention, if the mounting section to said holder for power-source spigots consists of suckers and changes. If the anchoring front face of the holder for power-source spigots is smooth by doing in this way, suitably, it can attach and remove to a desired field and the degree of freedom of the location to the light source and an include angle can be further obtained to it.

[0010] If the night-light of this invention consists of clampers to which said sheet attaching part carries

out a pressure welding flexibly to the maintenance plate with which the head of the connection object by which connection association is carried out is supported rotatable, and this maintenance plate, and pinches said protection-from-light sheet between said maintenance plates, it is suitable. Since a protection-from-light sheet carries out a pressure welding flexibly and is pinched by the clasper to a maintenance plate by doing in this way, it can hold certainly, without being influenced by the directivity of about [not being influenced by the thickness or the configuration of a protection-from-light sheet], and a maintenance plate.

[0011] The night-light of this invention is suitable if said sheet attaching part is formed with transparent synthetic resin. By doing in this way, a protection-from-light sheet can be penetrated extensively, without the light from the light source being covered by the sheet attaching part, and the function by transparency of the light of a protection-from-light sheet can be used extensively.

[0012] The night-light of this invention is suitable if said protection-from-light sheet is constituted by the surface section in the antibacterial paper which carried out distributed covering of the powder of titanium oxide. Since the protection-from-light sheet is constituted by antibacterial paper by doing in this way, the surface area of the powder particle of titanium oxide serves as size, the area which air touches directly becomes large, a photocatalyst operation increases and disassembly of sterilization, the organic substance, etc. becomes more effective.

[0013] The night-light of this invention is suitable if the convex surface which said protection-from-light sheet is made to project, and has predetermined curvature is formed. By doing in this way, the uniform transmitted light which the light which penetrates a light-receiving side becomes uniform, and is uniform can be obtained by setting the center-of-curvature side of the concave bend side formed in the light-receiving side side of a protection-from-light sheet to a light source side.

[0014] If a pattern is formed in the layer of the convex surface which made the protection-from-light sheet project and the night-light of this invention consists of thick or dense fiber layers in this encaustic part, it is suitable. Since it begins by transparency of light, and a pattern serves as a shadow picture and comes up to the convex surface of a protection-from-light sheet by doing in this way, the interest as a night-light is acquired.

[0015]

[Embodiment of the Invention] Hereafter, the gestalt of implementation of invention is explained based on a drawing.

[0016] The perspective view of the night-light whose (a) of drawing 1 is the 1st operation gestalt of this invention, and (b) are explanatory views of a photocatalyst operation produced on sterilization paper by the exposure of light, (a) of drawing 2 is the side elevation of a night-light, and (b) is the front view of a night-light.

[0017] While 1 shows a night-light and, as for this night-light 1, the push in 11 for power sources is formed in the end of this holder 2 for power-source spigots by forming the holder 2 for power-source spigots in an abbreviation rectangular parallelepiped. The socket 3 of the shape of a cylinder for screwing the small electric bulb 4 used as the light source on protrudes on that top face, it slides to the side face of the holder 2 for power-source spigots so that this holder 2 for power-source spigots may be crossed, and the switch 5 for ON and an off switch is formed.

[0018] Thus, the push-in 11 side for power sources of the holder 2 for power-source spigots, it is attached by adhesives etc. and the sheet attaching part 7 which holds the end of the protection-from-light sheet 8 dismountable so that an electric bulb 4 may be covered is formed for the end of the turnable support arm 6 in the reverse side edge side at the head of the support arm 6 at the constituted conventional night-light 1.

[0019] This support arm 6 consists of combination 14b which carries out fit-in support of the sheet attaching part 7 rotatable at connection object 13a attached in the other end side where an end becomes a part of holder 2 for power-source spigots at least, combination 14a which fits in the other end of this connection object 13a rotatable, and carries out successive formation association of other connection objects 13b and 13c, respectively, and the head of connection object 13c by which successive formation association is carried out.

[0020] Furthermore, the sphere B formed in the edge of each combination 14a and 14b is fitting the support arm 6 in the fitting hole formed in the joint edge of each connection objects 13a, 13b, and 13c rotatable, respectively.

[0021] Thus, the constituted night-light 1 inserts in a plug socket 12 the push in 11 for power sources of the holder 2 for power-source spigots which screwed the electric bulb 4 on at the sheet attaching part 7, after equipping with the protection-from-light sheets 8, such as clipping papers, such as a graphic form pattern shown in (a) of drawing 1 by the imaginary line.

[0022] Then, if an electric bulb 4 is made to turn on when the switch 5 for a switch is made to turn on, graphic form patterns, such as clipping paper of the protection-from-light sheet 8, will serve as a shadow picture, and will come up.

[0023] And the condition that light is penetrated, and the condition of the shade of a pattern can be changed by making the sheet attaching part 7 equipped with this protection-from-light sheet 8 thru/or the support arm 6 crooked, changing an include angle suitably or changing a height location to the electric bulb 4 which is the light source.

[0024] Since the protection-from-light sheet 8 is held dismountable at the head of the turnable support arm 6 by doing in this way, the location and include angle of the protection-from-light sheet 8 to the light source can be changed, and change can be given to lighting by exchanging suitably the various gobos prepared beforehand.

[0025] Moreover, since the connection objects 13a, 13b, and 13c are fitted in rotatable and successive formation association of the sheet attaching part 7 is carried out with Combination 14a and 14b, a degree of freedom is obtained by the setting-out location of the sheet attaching part 7, and the include angle.

[0026] Next, it explains per 2nd operation gestalt of this invention. (a) of drawing 3 is the perspective view of the night-light as the 2nd operation gestalt, and (b) is the fragmentary sectional view of a support arm. In addition, the explanation which attaches the same sign and overlaps is omitted about the same component as the component shown in the operation gestalt mentioned above.

[0027] 15 shows the night-light as the 2nd operation gestalt, in the night-light 15 of this operation gestalt, as for said operation gestalt, a support arm and its mounting section are different, and other configurations have the same composition.

[0028] Namely, while the sucker 17 by which the end face of an opposite hand is adsorbed with the push-in 11 side for power sources of the holder 2 for power-source spigots is formed in an end, the support arm 16 Combination 14a connected by fitting Sphere B in the mutual fitting holes 18 and 19a, respectively in connection object 17a by which the fitting hole 18 was formed in the other end, this connection object 17a, and the following connection object 13b, It consists of sheet attaching parts 7 which the sphere B of combination 14b is fitted in fitting hole 19b of this connection object 13b other end, and are supported rotatable.

[0029] Thus, it can stick to the constituted night-light 15 on the side face of a request of the sucker 17 of the support arm 16 of the holder 2 for power-source spigots so that the light source may be covered from the angular position or the height location of a request of this protection-from-light sheet 8, after equipping the sheet attaching part 7 with the protection-from-light sheet 8.

[0030] If the anchoring front face of the holder 2 for power-source spigots is smooth by doing in this way, installation removal can be carried out suitably in a desired field, and the degree of freedom of the location to an electric bulb 4 and an include angle can be obtained further.

[0031] Next, it attaches and explains to the 3rd operation gestalt of this invention. Drawing 4 is the perspective view of the night-light as the 3rd operation gestalt. In addition, the explanation which attaches the same sign and overlaps is omitted about the same component as the component shown in the operation gestalt mentioned above.

[0032] 20 shows the night-light as the 3rd operation gestalt, in this night-light 20, as for said operation gestalt, the sheet attaching part at the head of a support arm is different, and other configurations have the same composition.

[0033] Although 21 shows a sheet attaching part, this sheet attaching part 21 is attached at the head of a support arm, and it can be used for this support arm any of said 1st or 2nd operation gestalt they are,

with this operation gestalt, the support arm 6 of the 1st operation gestalt is used for it.

[0034] The maintenance plate 22 supported rotatable at the head of the support arm 6 which consists of connection objects 13a, 13b, and 13c with which connection association of this sheet attaching part 21 is carried out through Combination 14a and 14b, respectively. It is supported to revolve by bracket 22b of the couple formed in the front face of this maintenance plate 22 rotatable, and it is twisted and consists of clampers 23 which are not illustrated and which energize flexibly to the maintenance plate 22 and pinch the protection-from-light sheet 8 flexibly between the maintenance plates 22 by a coil spring etc.

[0035] Moreover, section 22 with stage a is formed by the maintenance plate 22, it gets down to a front face at it, and the soffit of the protection-from-light sheet 8 can position now in contact with this section 22 with stage a.

[0036] In the night-light 20 in this operation gestalt, after positioning the soffit of the protection-from-light sheet 8 in contact with section 22 with stage a, the protection-from-light sheet 8 is pinched by the clamber 23. Then, bending of the support arm 6 sets the sheet attaching part 21 as the electric bulb as the light source suitably to 4 in an include angle or a height location.

[0037] In addition, if a sheet attaching part is constituted with transparent synthetic resin by the support arm list in each operation gestalt mentioned above, it is suitable for it.

[0038] Since according to such a sheet attaching part 21 the protection-from-light sheet 8 carries out a pressure welding flexibly and is pinched by the clamber 23 to the maintenance plate 22, it can hold certainly, without not being influenced by the thickness or the configuration of the protection-from-light sheet 8, and being influenced by the sense of the maintenance plate 22.

[0039] Moreover, without the light from an electric bulb 4 being covered by these support arm 6, 16 and the sheet attaching part 7, or 21 when a sheet attaching part is constituted by each support arm list with transparent synthetic resin, the whole protection-from-light sheet surface can be made to be able to penetrate, and the lighting function by transparency of the light of the protection-from-light sheet 8 can be used extensively.

[0040] Moreover, as the protection-from-light sheet 8 mentioned above is shown in (b) of drawing 1, that by which the powder 9 of titanium oxide was distributed and put on homogeneity is used for the surface section of the paper material 10 which has the translucency of Japanese paper etc.

[0041] If light (ultraviolet rays) is irradiated by the countless particle of the powder 9 of the titanium oxide of such a protection-from-light sheet 8, the organic substance contained in the air having referred to the particle of the paper material 10 surface section is disassembled, or various bacteria etc. are sterilized by photocatalyst operation, and indoor environment can be made to improve according to it.

[0042] Thus, in order to perform decomposition and sterilization of the organic substance effectively, it is important to make the surface section of the paper material 10 distribute the powder 9 of titanium oxide, as mentioned above, and to make it directly touched with air, and it is also important to increase the area which air touches by making surface area of the particle of powder 9 into size.

[0043] Next, it attaches and explains to the 4th operation gestalt of this invention. (a) of drawing 5 is the side elevation of the night-light as the 4th operation gestalt, and (b) is A view drawing of (a). In addition, the explanation which attaches the same sign and overlaps is omitted about the same component as the component shown in the operation gestalt mentioned above.

[0044] 24 shows the night-light as the 4th operation gestalt, as for said operation gestalt, the protection-from-light sheet 25 which this night-light 24 is inserted in the sheet attaching part 7 at support arm 6 head, and is held is different, and other configurations have the same composition.

[0045] Convex surface 25a which this protection-from-light sheet 25 makes an abbreviation center section project, and has predetermined curvature (for example, spherical part) is formed, a pattern 26 is formed in the layer of this convex surface 25a, and this encaustic 26 part consists of dense fiber layers thickly.

[0046] Then, the center-of-curvature side of the concave bend side formed in the light-receiving side side of the protection-from-light sheet 25 which the support arm 6 was made crooked and was attached in the sheet attaching part 7 is set to the electric bulb 4 side of a night-light 24, and by making an electric bulb 4 turn on, a pattern [that made thickness or a fiber layer dense and it was constituted] part 26

serves as a shadow picture, and comes up.

[0047] Thus, the uniform transmitted light which the light which penetrates convex surface 25a of the protection-from-light sheet 25 becomes uniform, and is uniform can be obtained by setting the center-of-curvature side of the concave bend side formed in the light-receiving side side of the protection-from-light sheet 25 to an electric bulb 4 side. Moreover, since it begins by transparency of light and a pattern 26 comes up to the convex surface 26 of the protection-from-light sheet 25, the interest as a night-light 24 is acquired.

[0048] As mentioned above, although the drawing has explained the operation gestalt of this invention, a concrete configuration is not restricted to these operation gestalt, and even if there are modification and the addition in the range which does not deviate from the summary of this invention, it is included in this invention.

[0049]

[Effect of the Invention] (1) Since a protection-from-light sheet is held dismountable at the head of a turnable support arm, the night-light of invention concerning claim 1 can change the location and include angle of a protection-from-light sheet to the light source, and can give change to lighting by exchanging suitably the various protection-from-light sheets prepared beforehand.

[0050] (2) Since a connection object is fitted in rotatable and, as for the night-light of invention concerning claim 2, successive formation association of the sheet attaching part is carried out with combination, a degree of freedom is obtained by the setting-out location of a sheet attaching part, and the include angle.

[0051] (3) If the night-light of invention concerning claim 3 has the smooth anchoring front face of the holder for power-source spigots, suitably, it can attach and remove to a desired field and the degree of freedom of the location to the light source and an include angle can be further obtained to it.

[0052] (4) Since a protection-from-light sheet carries out a pressure welding flexibly and is pinched by the clasper to a maintenance plate, the night-light of invention concerning claim 4 can be held certainly, without being influenced by the directivity of about [not being influenced by the thickness or the configuration of a protection-from-light sheet], and a maintenance plate.

[0053] (5) The night-light of invention concerning claim 5 can penetrate a protection-from-light sheet extensively, without the light from the light source being covered by the sheet attaching part, and can use extensively the function by transparency of the light of a protection-from-light sheet.

[0054] (6) Since the protection-from-light sheet is constituted by antibacterial paper, the surface area of the powder particle of titanium oxide serves as size, the area which air touches directly becomes large, a photocatalyst operation increases and it becomes effective [disassembly of sterilization, the organic substance, etc.] more [the night-light of invention concerning claim 6].

[0055] (7) The night-light of invention concerning claim 7 can obtain the uniform transmitted light which becomes uniform [the light which penetrates a light-receiving side], and is uniform by setting the center-of-curvature side of the concave bend side formed in the light-receiving side side of a protection-from-light sheet to a light source side.

[0056] (8) Since the night-light of invention concerning claim 8 is begun by transparency of light, and a pattern serves as a shadow picture and comes up to the convex surface of a protection-from-light sheet, the interest as a night-light is acquired.

[0057]

[Translation done.]